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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,735	10/22/2003	Robert J. Altenbach	7000US02	4318

23492 7590 04/27/2005

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EXAMINER	
JOHNSEN, JASON H	

ART UNIT	PAPER NUMBER
1623	

DATE MAILED: 04/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/689,735	ALTENBACH ET AL.	
	Examiner	Art Unit	
	Jason H. Johnsen	1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1-50* is/are pending in the application.

4a) Of the above claim(s) *26-39,45,46 and 50* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-17,19-25,41-44 and 47-49* is/are rejected.

7)☐ Claim(s) *18 and 40* is/are objected to.

8)☐ Claim(s) *1-50* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on *N/A* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/17/04, 5/24/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

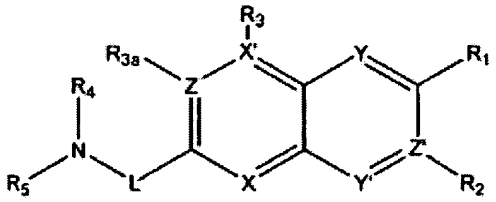
Information Disclosure Statement

The information disclosure statement (IDS) submitted on 3/19/2004 and 5/24/2004 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner is considering the information disclosure statement.

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

Group I: Claims 1-25(in part), 40, 41, 42(in part), 43, 44(in part), 45-49(in part) drawn to compounds, compositions, and a method of use of Formula I:



, wherein Z, Z', X, X', Y, and Y' are all carbons, classified in various subclasses of class 564 depending on the variables.

Group II: Claims 37, 1-24(in part), 42(in part), 44(in part), and 45-49 (in part) drawn to compounds, compositions and a method of use of Formula I, wherein Y is Nitrogen, and Z, Z', X, X', and Y' are carbon classified in various subclasses of class 546 depending on the variables.

Group III: Claims 26, and 1-24(in part), 42(in part), 44(in part), and 45-49 (in part), drawn to compounds, compositions and a method of use of Formula I, wherein Z' is Nitrogen, and Z, Y, X, X', and Y' are carbon classified in various subclasses of class 546 depending on the variables.

Group IV: Claims 29, and 1-24(in part), 42(in part), 44(in part), and 45-49 (in part), drawn to compounds, compositions and a method of use of Formula I, wherein Y' is Nitrogen, and Z, Y, X, X', and Z' are carbon classified in various subclasses of class 546 depending on the variables.

Group V: Claims 27 and 1-24(in part), 42(in part), 44(in part), and 45-49 (in part), drawn to compounds, compositions and a method of use of Formula I, wherein X is Nitrogen, and Z, Y, Y', X', and Z' are carbon classified in various subclasses of class 546 depending on the variables.

Group VI: Claims 28, and 1-24(in part), 42(in part), 44(in part), and 45-49 (in part), drawn to compounds, compositions and a method of use of Formula I, wherein Z is Nitrogen, and Y', Y, X, X', and Z' are carbon classified in various subclasses of class 546 depending on the variables.

Group VII: Claims 1-24(in part), 42(in part), 44(in part), and 45-49 (in part), drawn to compounds, compositions and a method of use of Formula I, wherein X' is Nitrogen, and Z, Y, X, Y', and Z' are carbon classified in various subclasses of class 546 depending on the variables.

Group VIII: Claims 30, and 1-24(in part), 42(in part), 44(in part), and 45-49 (in part), drawn to compounds, compositions and a method of use of Formula I, wherein X' and Z are Nitrogen, and Y', Y, X, and Z' are carbon classified in various subclasses of class 544 depending on the variables.

Group IX: Claims 31, and 1-24(in part), 42(in part), 44(in part), and 45-49 (in part), drawn to compounds, compositions and a method of use of Formula I, wherein Y', and Y is

Nitrogen, and X', Z, X, and Z' are carbon classified in various subclasses of class 544 depending on the variables.

Group X: Claims 32, and 1-24(in part), 42(in part), 44(in part), and 45-49 (in part), drawn to compounds, compositions and a method of use of Formula I, wherein Y, and Z' is Nitrogen, and Y', Z, X, and X' are carbon classified in various subclasses of class 544 depending on the variables.

Group XI: Claims 33, and 1-24(in part), 42(in part), 44(in part), and 45-49 (in part), drawn to compounds, compositions and a method of use of Formula I, wherein X', and Y is Nitrogen, and Y', Z, X, and Z' are carbon classified in various subclasses of class 546 depending on the variables.

Group XII: Claims 34, and 1-24(in part), 42(in part), 44(in part), and 45-49 (in part), drawn to compounds, compositions and a method of use of Formula I, wherein Y, and Z is Nitrogen, and Y', X', X, and Z' are carbon classified in various subclasses of class 546 depending on the variables.

Group XIII: Claims 35, and 1-24(in part), 42(in part), 44(in part), and 45-49 (in part), drawn to compounds, compositions and a method of use of Formula I, wherein Z', and Y' is Nitrogen, and Z, Y, X, and X' are carbon classified in various subclasses of class 544 depending on the variables.

Group XIV: Claims 38, and 1-24(in part), 42(in part), 44(in part), and 45-49 (in part), drawn to compounds, compositions and a method of use of Formula I, wherein X, and Z is Nitrogen, and Y', Y, X, and Z' are carbon classified in various subclasses of class 544 depending on the variables.

Group XV: Claims 36, and 1-24(in part), 42(in part), 44(in part), and 45-49 (in part), drawn to compounds, compositions and a method of use of Formula I, wherein X, and X' is Nitrogen, and Y', Y, Z, and Z' are carbon classified in various subclasses of class 544 depending on the variables.

Group XVI: Claims 39, and 1-24(in part), 42(in part), 44(in part), and 45-49 (in part), drawn to compounds, compositions and a method of use of Formula I, wherein Y', and X' is Nitrogen, and Z, Y, X, and Z' are carbon classified in various subclasses of class 544 depending on the variables.

Group XVII: Claims 45-49(in part) drawn to methods of treating a condition or disorder modulated by histamine-3 receptors classified in various subclasses of class 514.

Group XVIII: Any heterocyclic compounds not mentioned above. If this group is elected, it may be subject to further restriction.

Group XIX: Claim 50 drawn to process for preparing a compound of formula (I) classified in various subclasses of class 514.

The Above Groups Represent General Areas Wherein The Inventions Are Independent And Distinct, Each From The Other Because Of The Following Reasons:

Inventions I-XIX are directed to a different compound of formula I and a different method of use each of which is classified in different classes or subclasses, as well as a process for making said compound. Because of the plethora of classes and subclasses in each of the Groups, a serious burden is imposed on the examiner to perform a complete search of the defined areas. Additionally, the literature and structure search required are divergent. For example, a

naphthalene compound is significantly different structurally from a bicyclic heterocyclic compound. Chemical structure searches are chemical structure dependant.

Moreover, a reference rendering one of the groups obvious would not necessarily render the other obvious and a search for one of the groups is not required for the others. As such, a search of the independent and distinct inventions of groups I-XIX would indeed impose an undue burden upon the examiner in charge of the instant application. Therefore, because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

A telephone conversation with Portia Chen took place on February 10, 2005 in which Ms. Chen elected group one without traverse. Additionally, Ms. Chen elected a species for group I consisting of example 31 in the specification, and a species of method of use consisting of treating Alzheimer's disease, ADHD, cognitive deficits of schizophrenia, and mild cognitive impairment. Therefore, claims 26-39, 45, 46, and 50 are withdrawn from consideration.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-3, 6-8, 11-25, 40-44, and 47-49 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-50 of copending Application No. 10292422. Although the conflicting claims are not identical, they are not patentably distinct from each other because the only difference is the addition of R3b in the instant application, which overlaps with the copending application depending on the variables. Additionally, the dependent claims of instant application are seen to encompass the embodiments of the copending application. Furthermore, when R3b is such that it is not technically overlapping with the instant application, it is still not seen to be critical to the invention would still be considered an obvious variation within the purview of one of ordinary skill

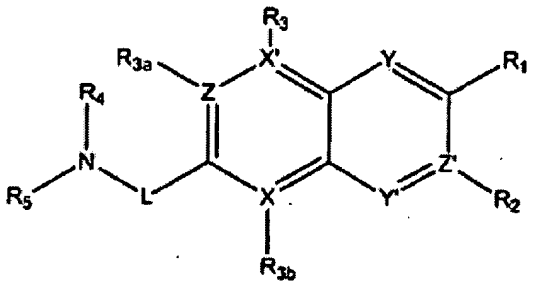
This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-3, 8, 12, 16, 17, 19, 20, 22, 25, 44, 47-49 are rejected under 35 U.S.C. 102(b) as being anticipated by Cheshire et al. (US 6,300,352). Claim 1 is drawn to compound of formula



I: , or a pharmaceutically acceptable salt, ester, amide or prodrug thereof, wherein: X, Y, or Y' are each independently CF or CH; Z, Z', and X' are each independently C;

or a pharmaceutically acceptable salt, ester, amide, or prodrug thereof, wherein:

Y, and Y' are each independently selected from the group consisting of CH, CF, and N;

X, X', Z, and Z' are each independently C or N;

one of R_1 and R_2 is selected from the group consisting of halogen, cyano, and L_2R_6;

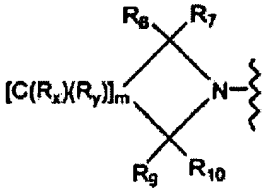
the other of R_1 and R_2 is selected from the group consisting of hydrogen, alkyl, alkoxy, aryl, cycloalkyl, halogen, cyano, and thioalkoxy, provided that R_2 is absent when Z' is N;

R_3 is absent when X' is N or R_3 is selected from the group consisting of hydrogen, alkyl, alkoxy, halogen, cyano, and thioalkoxy;

R_{3a} is absent when Z is N or R_{3a} is selected from the group consisting of hydrogen, methyl, alkoxy, halogen, and cyano;

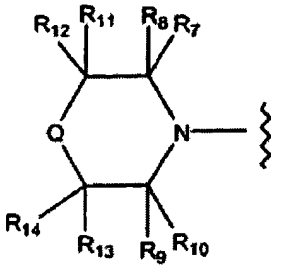
R_{3b} is absent when X is N or R_{3b} is selected from the group consisting of hydrogen, alkyl, alkoxy, halogen, hydroxy, cyano, and thioalkoxy;

R_4 and R_5 are each independently selected from the group consisting of alkyl, haloalkyl, hydroxyalkyl, alkoxyalkyl, cycloalkyl, cycloalkylalkyl, and (NR_AR_B)alkyl, or R_4 and R_5 taken together with the nitrogen atom to which each is attached form a non-aromatic ring of the formula:



(a)

or



(b)

;

R_6 is selected from the group consisting of aryl, heteroaryl, heterocycle, and cycloalkyl;

R_7, R_8, R_9, and R_{10} at each occurrence are each independently selected from the group consisting of hydrogen, hydroxyalkyl, fluoroalkyl, and alkyl; or one of the pair R_7 and R_8 or the pair R_9 and R_{10} is taken together to form a C_3-C_6 ring, wherein 0, 1, or 2 heteroatoms selected from O, N, or S replace a carbon atom in the ring;

R_{11}, R_{12}, R_{13}, and R_{14} are each independently selected from the group consisting of hydrogen, hydroxy, hydroxyalkyl, alkyl, and fluoro;

Q is selected from the group consisting of a bond, O, S, and NR_{15};

L is $-[C(R_{16})(R_{17})]_n-$ or $-[C(R_{18})(R_{17})]_pO-$;

L_2 is selected from the group consisting of a bond, -O-, -C(=O)-, -S-, $-[C(R_{18})(R_{19})]_q-$, $-O-[C(R_{18})(R_{19})]_q-$, -NH- and -N(alkyl)-;

R_{15} is selected from the group consisting of hydrogen, alkyl, acyl, amido, and formyl;

R_{16} and R_{17} at each occurrence are independently selected from the group consisting of hydrogen, alkyl, alkoxy, and fluoro;

R_{18} and R_{19} at each occurrence are each independently selected from the group consisting of hydrogen, hydroxy, alkyl, alkoxy, and fluoro;

R_x and R_y at each occurrence are independently selected from the group consisting of hydrogen, hydroxy, alkyl, alkoxy, alkylamino, dialkylamino, and fluoro, or one of R_x or R_y represents a covalent bond when taken together with R_x or R_y on an adjacent carbon atom such that a double bond is represented between the adjacent carbon atoms;

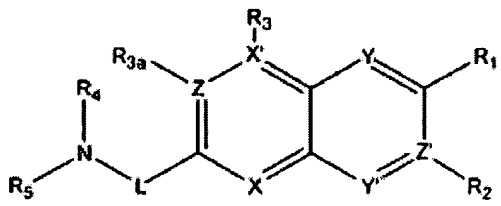
m is an integer from 1 to 5;

n is an integer from 1 to 6;
p is an integer from 2 to 6; and
q is an integer from 1 to 4;
wherein 0, 1, or 2 of X, X', Y, Y', Z, and Z' can be nitrogen; provided that R_3 is absent when X' is N; R_{3a} is absent when Z is N; R_2 is absent when Z' is N, and R_{3b} is absent when X is N.

Claim 2 further limits the compound of claim 1, wherein R_1 is bromo, cyano, or L_2R_6. Claim 3 further limits the compound of claim 1, wherein R_1 is L_2R_6, L_2 is –CH(OH)-, -C(=O)-, or a bond, and R_6 is aryl, heteroaryl, and cycloalkyl. Claim 5 further limits the compound of claim 1, wherein L2 is selected from the group consisting of –O-, -C(=O)-, -S-, -(C(R_{18})(R_{19}))q-, and –O-(C(R_{18})(R_{19}))q-. Claim 8 further limits the compound of claim 1, wherein R4 and R5 taken together with the nitrogen atom to which each is attached form a 4- to 8- membered non-aromatic ring represented by formula (a). Claim 12 further limits the compound of claim 1, wherein R_4 and R_5 taken together with the nitrogen atom to which each is attached from morpholinyl or thiomorpholinyl. Claim 16 further limits the compound of claim 1, wherein R_{11}, R_{12}, R_{13}, and R_{14} are each hydrogen. Claim 17 further limits the compound of claim 1, wherein R_{11} and R_{12} each are hydrogen, and R_{13} and R_{14} are each independently selected from the group consisting of hydrogen and alkyl. Claim 19 further limits the compound of claim 1, wherein R_{16} and R_{17} are hydrogen. Claim 20 further limits the compound of claim 1, wherein R_{18} and R_{19} are hydrogen. Claim 22 further limits the compound of claim 1, wherein n is 2 or 3. Claim 25 further limits the compound of claim 1, wherein Y and Y' are CH, X, X', Z, and Z' are carbon, and R_2, R_3, R_{3a}, and R_{3b} are hydrogen. Claim 44 is drawn to a pharmaceutical composition comprising a therapeutically effective amount of a compound of claim 1 in combination with a

pharmaceutically acceptable carrier. Claim 47 is drawn to a method of treating a condition or disorder selected from the group consisting of Alzheimer's disease, attention-deficit hyperactivity disorder, cognitive enhancement, deficits of memory and mild cognitive impairment. Claim 48 further limits the method of claim 46 wherein the condition or disorder affects the memory or cognition. Claim 49 further limits the method of claim 46, wherein the condition or disorder is Alzheimer's disease, attention-deficit hyperactivity disorder, schizophrenia, or cognitive deficits of schizophrenia.

Cheshire et al. teach a compound, composition and method of treating Alzheimer's disease and other cognitive disorders of the formula I:



,

wherein Z, Z', X, X', Y, Y' are carbon, R_2, R_3, and R_{3a} and R_{3b} are hydrogen, R_1 is L_2R_6, L2 is –$(C(R_{18})(R_{19}))p$ O-, R_6 is pyridinyl, R_{18} and R_{19} are hydrogen, hydroxyl, and alkyl, L is L is –(C(R18)R19))q-, R_{18} and R_{19} are hydrogen, R_4 and R_5 taken together form a ring of formula (b), wherein Q is oxygen, $R_{7\text{-}14}$ are each hydrogen, q is 4, and n is 3 (column 50, example #43; column 8, lines 11-37).

2. Claims 1-3, 7-11, 13-17, 19-22, and 44 are rejected under 35 U.S.C. 102(b) as being anticipated by Denis M. Bailey (US 4,327,022). The limitations of claims 1-3, 8, 16, 17, 19, 20, 22, and 44 are discussed above. Claim 7 further limits the compound of claim 1, wherein R_4 and R_5 are each independently selected from methyl, ethyl, and propyl. Claim 9 further limits the compound of claim 8 wherein wherein the 4 to 8 membered non-aromatic ring is selected from

the group consisting of azetidinyl, azepanyl, azepinyl, pyrrolidinyl, pyrrolinyl, piperidinyl, piperazinyl, and tetrahydropyridinyl, substituted with 0, 1, or 2 substituents selected from the group consisting of alkyl, hydroxyalkyl, and fluoroalkyl, and NR_AR_B. Claim 10 further limits the compound of claim 8, wherein at least one substituent represented by R_7, R_8, R_9, and R_{10} is selected from the group consisting of alkyl, halogen, fluoroalkyl, and hydroxyalkyl or at least one substituent represented by Rx or Ry is selected from the group consisting of hydrogen, hydroxyl, and fluoro. Claim 11 further limits the compound of claim 8, wherein the ring system is selected from the group consisting of methylpyrrolidinyl, ethylpyrrolidinyl, dimethylaminopyrrolidinyl, isopropylpyrrolidinyl, isobutylpyrrolidinyl, hydroxymethylpyrrolidinyl, and fluoromethylpyrrolidinyl. Claim 13 further limits the compound of claim 1, wherein at least one substituent represented by R_7, R_8, R_9, and R_{10} is hydroxyalkyl, fluoralkyl, or alkyl. the ring system is selected from the group consisting of azetidinyl, azepanyl, azepinyl, pyrrolidinyl, pyrrolinyl, piperidinyl, and tetrahydropyridinyl. Claim 13 further limits the compound of claim 11, wherein at least one substituent represented by R_7, R_8, R_9, R_{10}, Rx or Ry is selected from the group consisting of alkyl, halo, fluoralkyl, and hydroxyalkyl. Claim 14 further limits the compound of claim 1, wherein one substituent represented by R_7, R_8, R_9, and R_{10} is methyl, ethyl, fluoromethyl, or hydroxymethyl. Claim 15 further limits the compound of claim 1, wherein one substituent represented by R_7, R_8, R_9, and R_{10} is alkyl and the other three substituents are hydrogen. Claim 16 further limits the compound of claim 1, wherein R_{11}, R_{12}, R_{13}, and R_{14} are each hydrogen. Claim 17 further limits the compound of claim 1, wherein R_{11} and R_{12} each are hydrogen, and R_{13} and R_{14} are each independently selected from the group consisting of hydrogen and alkyl. Claim 19 further limits the compound of claim 1, wherein R_{16}

and R_{17} are hydrogen. Claim 20 further limits the compound of claim 1, wherein R_{18} and R_{19} are hydrogen. Claim 21 further limits the compound of claim 1, wherein m is 2 or 3. Claim 22 further limits the compound of claim 1, wherein n is 2 or 3.

Denis M. Bailey teaches a structure with the core of formula I, wherein Z, Z', X, X', Y, Y' are carbon, R_1 or R_2 is L_2R_6 and the other is alkoxy; L_2 is –O-, R_6 is aryl, L is –(C(R_{16})(R_{17}))n, n is 1 or 2, R_{16} and R_{17} are hydrogen or alkyl, R4 and R5 are a lower alkyl, or taken together with the nitrogen to which they are attached form a pyrrolidine, piperidine, hexamethylemeinine, or morpholine ring system according to either formula (a) or (b); $R_{7\text{-}14}$ is either hydrogen, or any two can be a lower alkyl substituent; R_3 and R_{3a} are hydrogen (Column 6, Formula VI, lines 31-66).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

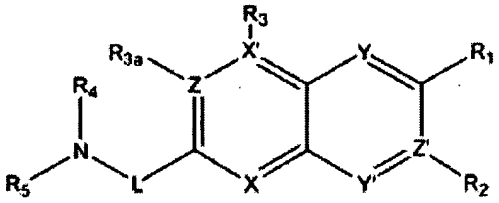
> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-11, 16, 17, 23, 24, 44, and 47-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheshire et al.(US 6,300,352), Kato et al. (WO 98/38156), and Azzolina et al. ("Chemical and biological profile of racemic and optically active dialkylaminoalkylnaphthalenes with analgesic activity," Tetrahedron Asymmetry, (2002), Vol. 13, pp. 1073-1081). The limitations of claims 1-3, 7-12, 16, 23, 25, 26, and 29 are discussed above. Claim 4 further limits the compound of claim 1, wherein R1 is L2Rs, L2 is a bond, and R6 is aryl wherein the aryl is phenyl substituted with 0, 1, or 2 substituents selected from the group consisting of cyano, halogen, _NRARB, alkoxy, hydroxyalkyl, alkylcarbonyl, alkoxycarbonyl, cycloalkylcarbonyl, alkylsulfonyl, haloalkyl, and thioalkoxy. Claim 5 further limits the compound of claim 1, wherein R_1 is L_2R_6 wherein L_2 is a bond and R_6 is selected from the group consisting of furyl, imidazolyl, isoxazolyl, isothiazolyl, oxadiazolyl, oxazolyl, phenyl, pyarazinyl, pyrazolyl, pyridazinyl, pyridazinonyl, pyridinyl, pyrimidinyl, pyrrolyl, tetrazolyl, thiadiazolyl, thiazolyl, thienyl, triazinyl, and triazolyl, substituted with 0, 1, 2, or 3 substituents selected from the group consisting of $-NR_AR_B$, halogen, alkyl, cyano, alkoxyimino, alkoxycarbonyl, (NR_AR_B)carbonyl, alkylcarbonyl, haloalkyl, and alkoxy. Claim 6 further limits the compound of claim 1, wherein R1 is L2R6, L2 is a bond, and R6 is selected from the group consisting of azepanyl, azepanyl, azetidinyl, aziridinyl, azocanyl, morpholinyl, piperazinyl, piperidinyl, pyrrolidinyl, pyrrolinyl, thiomorpholinyl, tetrahydrofuranyl, and tetrahydropyranyl. Claim 23 further limits the compound of claim 1, wherein p is 2

The teachings of Cheshire et al. are discussed supra. Cheshire et al. do not teach p is 2, R_1 is L_2R_6, and L_2 is a bond.

Kato et al. teach a compound, composition and method of treating Alzheimer's disease and other cognitive disorders of the formula I:  , wherein Z, Z', X, X', Y, Y' are carbon, R_2, R_3, and R_{3a} are hydrogen, R_1 is L_2R_6, O, CO, O, C $_{1-6}$ alkyl, L_2 is a bond, R_6 is an aromatic group which can be optionally substituted, L is $-(C(R_{16})(R_{17}))n$ or $-(C(R_{16})(R_{17}))p$ O-, R_4 and R_5 are either an alkyl or together with the nitrogen to which they are attached form a optionally substituted nitrogen containing heterocyclic ring (see abstract, "Background art" and "Disclosure of Invention" sections, page 1-10). Kato et al. do not explicitly teach a naphthalene core compound, but teaches generally, that the second ring system can be a 4 to 8 membered ring which may be further substituted.

Azzolina et al. teach a compound and composition of formula I, wherein Z, Z', X, X', Y, Y' are carbon, R1 or R2 is a Fluorine, and the other is hydrogen, L is $-(C(R_{16})(R_{17}))n$, R_{16} and R_{17} are hydrogen, hydroxyl or methyl, n is 3, R_4 and R_5 and R_4 and R_5 are methyl (Scheme 1, page 1074). Azzolina et al. teach that one of R_{16} or R_{17} is hydroxyl.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to prepare the above taught compound, composition for use in the method taught by the applicant having the above-cited references before him. Both Cheshire at el. and Kato et al. teach compounds and compositions for the treatment of Alzheimer's and other cognitive and memory impairments. Kato et al. teach the general formula of a naphthalene core

as the backbone for these drugs. One of ordinary skill in the art would be motivated to combine the above references when exploring newer, more effective therapies for these disorders.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 41 and 42 are rejected for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 42 recites several preferred compounds that have insufficient antecedent basis for the limitations enumerated in that claim. For example, in the structure of compound 2-(6-(2-((2R)-2-methyl-1-pyrrolidinyl)ethyl)-2-naphthyl)-3(2H)-pyridazinone, the pyridazine ring is optionally substituted with a ketone functional group. However, R_6 in claim 1 does not provide any further substitution on the ring system. This same problem exists for the majority of the compounds in claim 44, including the compounds containing benzonitriles, ethanone, propanol, etc. Claim 41 is rejected for the same problem.

Claim Objections

Claim 18 and 40 are objected to for depending from a rejected base claim but would be allowable if written in independent form.

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jason H. Johnsen** whose telephone number is **571-272-3106**. The examiner can normally be reached on Mon-Friday, 8:30-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. James O. Wilson can be reached on 571-272-0661. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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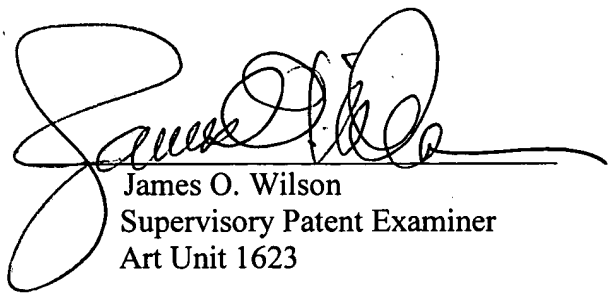

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